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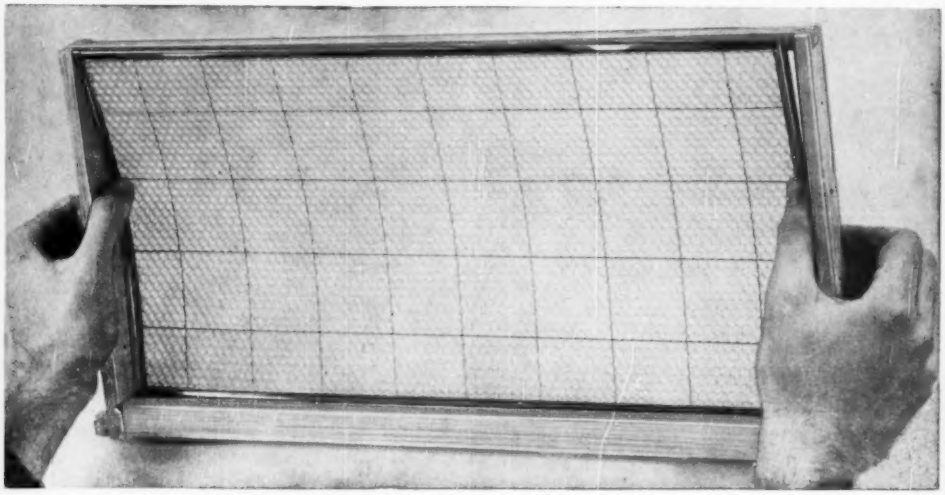

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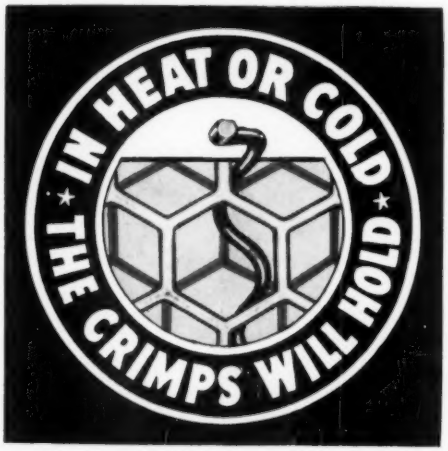

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As when tonight His hour arrives,
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Volume 90, No. 12 December, 1950

THE AMERICAN BEE JOURNAL
HAMILTON, ILLINOIS
Editor—G. H. Cale
Associate Editors—M. G. Dadant, Frank C. Pellett, Roy A. Grout
Managing Editor—Adelaide Fraser

Published monthly at Hamilton, Illinois. Entered as second class matter at the Post Office Hamilton, Illinois; In the United States, Canada and Mexico, $2.00 a year; two years $3.00; three years $4.00. Foreign $2.50 a year; two years $4.00; three years $5.50. Subscription stopped at expiration date printed on wrapper.

to all our readers
from
the Editor and Staff
of the
American Bee Journal

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Our Mutual Friends the Honey Bees

by Charles W. Gouget

IT seems to be taken for granted that if one plants fruit trees, brambles, strawberry plants or tomato plants that fruit will be produced by them. Little thought is given to this phenomenon because under normal conditions fruit is usually produced, but comparatively few gardeners or farmers are fully aware of the natural, biological, "chain" reaction that made the fruit possible.

Since most all of our fruits are pollinated by insects, and especially the honey bee few of us realize that without the bee we would have practically no fruits and few seeds or vegetables. Through pollination the bee provides the "spark" that ends in seed and fruit production. In many respects pollination is the foundation of agriculture and the basis for an economy of abundance within this nation.

Pollination

Plants have many wonderful adaptations for perpetuating their kind, among which is the art of pollination. Pollination is the transfer

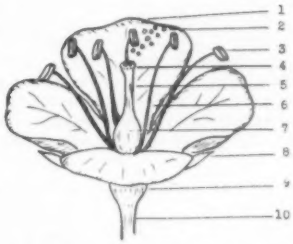
The honey bee is the only pollinating insect that is controlled by man.

The honey bee seeks nectar from the base of flowers whose ripened anthers dust the bee with pollen.

Pollen is carried among the hairs of the bee's body purely by accident.

In another flower the bee may brush against the sticky stigma leaving some pollen and unconsciously completing the act of cross pollination.

★ ★ ★



Parts of a Complete Flower

1. **Petal**
2. **Pollen grain**
3. **Anther**
4. **Stigma**
5. **Style**
6. **Filament**
7. **Ovary**
8. **Sepal**
9. **Receptacle**
10. **Stem**

★ ★ ★

of pollen (a colored powderlike substance) from the anther of a flower to the stigma of the same flower or to the stigma of a different flower. The first is called self-pollination, and the second cross-pollination, processes which usually result in the act of fertilization (the union of egg and sperm nuclei) which is essential for the production of most fruits and all seeds. Since few plants except evergreens and grasses are pollinated by wind, most of our common fruits and vegetables are dependent almost entirely upon bees and other insects for the perpetuation of their kind.

"Flower colors, flower odors, and the nectar of the blossoms attract the bees which unconsciously accomplish the act of pollination by their movements into and out of the flower in search of nectar and pollen. Nectar is a sweet, waterlike juice secreted by glands at the base of many flowers. This juice is the carbohydrate food of the bee from which it makes honey. Pollen provides its protein food and vitamins, and between the two the bee obtains a well-balanced diet.

As a bee enters a flower and forces its way to the base of it for nectar, it is dusted over its hairy body with pollen from the ripened anthers which have split open to release it. As it leaves the flower it may brush against the sticky end of the stigma leaving some of the pollen grains on it. This accidental, unplanned transfer is the most important phenomenon in the world, and it is worth many times the largest crop of honey ever produced.

Many fruit trees are self-sterile and must be pollinated with the pollen from another tree in order to produce fruit, a service rendered largely by the honey bee. This fact is true of many apple varieties, the Bartlett pear, the Hale peach and sweet cherries. Likewise, the same fact holds true for many garden fruits and vegetables such as strawberries, melons and cucumbers. Pollination is important also for squash, pepper, eggplant, pumpkin and watermelon. It is estimated that over thirty-five commercial vegetable crops are dependent on the honey bee for the production of seed. Today progressive farmers are willing to pay beekeepers four or five dollars a hive for pollination service because they now know that it pays dividends far beyond the cost of the service.

Natural Pollination and Human Welfare

Maintaining adequate numbers of natural pollinators throughout our nation is now recognized by the National Government as the number one problem in perpetuating an abundant food supply. Cultivation close to the fence rows with modern machinery and the unwise use of poison sprays, as arsenate of lead, Paris Green, and DDT, during blossoming periods threatens our natural pollinators with extinction. This fact is particularly true of the bumblebee which makes its home in the ground along the fence rows, but it is also true of other wild bees of lesser importance. As wild bees disappear the honey bee becomes increasingly important because it among all others, is the only insect pollinator that can be controlled by man. But it also is affected by poison sprays. Many beekeepers have been completely wiped out by arsenate of lead sprays applied to fruit trees during the blossoming period, or by DDT "fogged" over a country town to eradicate mosquitoes and flies. The "balance" in nature can be upset severely by ignorance or faulty reasoning in the promiscuous use of poison sprays.

We are beginning to realize that our national welfare is hooked up very closely with our supply of honey bees because they, alone, are largely responsible for the natural chain reaction which results in more seed, more fruit, more forage crops, more meat, and ultimately lower prices and a healthier nation.

Illinois.

The Use of Honey in Allergy

by D. C. Jarvis, M.D.

WHAT can be done to protect infants and children from developing allergic disorders is a question often asked. Statistics indicate that 75 per cent of all children with allergy present in both parents, and 50 per cent of children with allergy present in one parent, develop clinical allergy that requires attention.

When a child's body is sensitive to a food or substance which is harmless to most other children we state that the child is allergic to this food or substance. Most children inhale the pollen of various plants and are not aware of it. A few children react to the inhaled pollen by developing hay fever or asthma. We say these children are allergic to plant pollen.

Depending on the location of the allergic reaction in the child's body we may have bronchial asthma, hay fever, eczema, urticaria, angioneurotic edema, gastrointestinal allergy, migraine or other less important conditions.

In the production of allergy there are three factors to be considered. The first of these is the constitutional make-up of the individual. The second is the exciting cause represented by a change in the individual's body chemistry and the third the contributing cause represented by a disturbance in the relationship of the two divisions of the autonomic nervous system.

It has long been recognized that the allergic individual is different from other individuals and that this difference is inherited, being passed on from one generation to the generation that follows. Because this difference is inherited it is referred to as being constitutional in nature, the allergic individual having a different constitution than other individuals.

The most certain knowledge we have concerning this constitution is that it is usually inherited. In about sixty per cent of individuals with a definite allergy such as asthma or hay fever we can easily trace the presence of allergic disease in other members of the family. Like any other form of heredity it does not appear in all members of the family. The stronger the hereditary tendency the earlier in life the allergic symptoms are apt to occur. If there is allergy both on the paternal and maternal side the incidence of allergy in the offspring is approximately doubled.

It should be noted that it is the allergic **tendency** that is inherited and not the allergic disease. Thus the grandparent may have asthma, the parent hay fever and the grandchild eczema. One may be sensitive to feathers, the next to ragweed pollen and the next to eggwhite. And yet all of these individuals have a common characteristic, the ability to become sensitized. In more recent years, however, it has been shown that there is some tendency for allergics to inherit also an inherent weakness in a particular organ. For example, in ancestors with asthma the offspring are more likely to have asthma than hay fever and vice versa. There is reason to believe that the allergic tendency may also be acquired in some instances.

The constitutional factor alone is not wholly responsible for the presence of allergic symptoms. There must be in addition a change in the individual's body chemistry which renders the body tissues sensitive to the agent that produces the allergy. This change in the body chemistry is reflected in a changed reaction of the skin and a changed reaction of the morning urine passed on rising and urine passed before the evening meal when tested with Squibbs Nitrazine Paper which is purchased at the drug store.

The skin of the inner side of the forearm is always available for testing so this is used. Water from the cold water faucet is drawn and is tested with a strip of Squibbs Nitrazine Paper in order to be sure the water is neutral in reaction as shown by its not changing the color of the paper. If this water from the cold water faucet is neutral as it generally is then cotton wound around a toothpick or a wooden applicator is dipped in the water and applied to the forearm over an area of skin large enough to receive the strip of Squibbs Nitrazine Paper. Apply the strip of Squibbs Nitrazine Paper to the moistened area on the skin of the inner side of the forearm and allow to remain in place for one minute. If the reaction of the skin is normally acid as it should be the strip of Squibbs Nitrazine Paper will turn yellow. If the skin is alkaline in reaction the strip of Squibbs Nitrazine Paper will turn blue which indicates that the individual's body is biochemically in condition to develop some form of allergy.

The morning urine passed on rising is tested with Squibbs Nitrazine Paper in order to learn whether the night's rest has brought the individual to the beginning of the day with a balanced body chemistry. If the morning urine is normal in reaction it will turn the strip of Squibbs Nitrazine Paper yellow. If the urine is alkaline in reaction it will turn the strip of Squibbs Nitrazine Paper blue which indicates that the individual's body chemistry is suitably prepared to develop some form of allergy.

The reaction of the specimen of urine passed before the evening meal is taken to learn whether the day's activities have taken more out of the individual than the individual's body chemistry can satisfactorily deal with. If the strip of Squibbs Nitrazine Paper turns yellow it is concluded the body chemistry of the individual has been equal to the demands made upon it. If, however, the strip of Squibbs Nitrazine Paper turns blue it indicates that the body chemistry of the individual has not been equal to the day's demands and the stage is all set for the development of some form of allergy if this alkaline urine reaction is continued day after day. A daily study of the reaction of the morning urine passed on rising and the urine passed before the evening meal shows that allergy appears on an alkaline urine reaction background and disappears or is made very much better when the urine reaction

As We See It

COMB VS. EXTRACTED. Our old friend of the Irish Farmers' Gazette recommends to his readers the production of comb honey in preference to run (extracted) honey. His experience is that the run honey is still on the shelves after the comb honey has long since sold itself out of the market.

This is advice to which we might give consideration, especially since we have the alternative of bulk comb or cut comb honey which can be produced at a more reasonable price than the comb in sections. Section comb honey, of course, will always remain the aristocrat of all honeys. Too bad many of our former producers of this article felt it easier to change at a time when any honey would sell.

The Farmers' Gazette comes every week to our desk in exchange for our own publication. One page is devoted to bees. Our compliments to the author of this page. Not only does he give meaty information to his readers 52 times a year, but the material is written so that it not only appeals to the beginning beekeeper, but contains something of interest and help to the more experienced. And that calls for editorial ability.

The Irish crop has been short this year in spite of earlier rosy expectations, largely because of unfavorable weather at blooming time.

is shifted to the acid side.

In order to help the body to maintain an acid urine reaction from day to day there are a number of things an individual may do. First, a check-up of the daily food intake should be made. In the majority of individuals wheat foods such as bread, cake, crackers, cookies and doughnuts and wheat cereals produce an alkaline morning urine reaction. Wheat foods need to be exchanged for rye or cornmeal foods. White sugar, muscle meats such as beef, lamb and pork, citrus fruit and citrus fruit juices represented by oranges and grapefruit produce an alkaline urine reaction in the majority of people. Because milk as a beverage forms a curd in the stomach it often has to be omitted by allergic individuals whose digestion is not strong enough to break down this curd. There are a number of other factors that produce an alkaline urine reaction. These include prolonged physical work, prolonged mental work, an emotional upset, unproductive worry, an unhappy environment, exposure to cold, and medicine being taken.

In order to help the body to maintain an acid urine reaction from day to day a piece of comb honey two or more inches square is taken at each meal. Always remember that honey is a sedative to the body. The beeswax from the comb part of the honey is chewed for five minutes and is then swallowed as it is broken up in the mouth. Comb honey is used because of the propolis it contains. This propolis, or bee glue as it is often called, is spread as a varnish over the surface of the honeycomb by the bees. Here in Vermont it is gathered from spruce and pine trees. The bees obtain the propolis from drops of resin appearing on the bark of the tree on both trunk and branches. A bee alights close to such a drop and with the mandibles it tears loose a piece of it which, on account of its stickiness, strings out forming a thread that finally separates from the original drop. Such threads are removed from the mandible with the claws of the second pair of legs, then brought backwards and deposited in the bee's pollen baskets. While propolis is highly recommended as a domestic remedy for wounds and burns it has a special action on the breathing tract which is of great value to individuals who are subject to allergic reactions in the breathing tract. It opens the nose, produces a drying effect on the nose, lessens catarrhal discharge and lessens cough. It is for this special effect on the breathing tract and the sedative effect on the body as a whole that comb honey with its propolis content is used.

Honey has other desirable effects upon the human body. Honey has a laxative effect. If too much honey is being taken a looseness of the bowels will generally appear. Honey is also a sedative to the body. This sedative effect of honey is observed in its ability to produce sleep. Two teaspoonfuls of honey at bedtime will generally cause an individual to fall asleep within an hour after getting into bed.

Added help in aiding the body to maintain an acid urine reaction from day to day may be had by adding one or two teaspoonfuls of apple cider vinegar to a glass of water, the amount of apple cider vinegar depending on the age and size of the individual. This is taken one to three times a day with or without meals as needed to help the honey maintain an acid reaction of the urine.

While the allergic individual must accept his inherited allergic background he can very definitely control his body chemistry if he is willing to do so. By doing so his body tissues will not react or at least not react as markedly to the different agents that cause his allergy. It is within his power to control his daily food intake, and to control the reaction of his morning urine by taking honey and apple cider vinegar. By following this program it will be possible for him to live with his allergy with the result that it will give him much less trouble.

Vermont

Big Trout or Small

IT TAKES A GOOD NET!

by H. A. Schaefer

HAVE you a favorite trout stream? Those who fish will have their favorite place in mind at once. Let's take it for granted that most of us do fish at one time or another and settle back to read this little fable:

Let us mentally travel along our stream until we come to that pool which looks as if it surely contains large trout in its hiding places. The pool is on the same side of the stream as we are and, to make it hard to fish, there are overhanging trees along the bank so we cannot gain access to our pool from this side. If we were only on the other side it would be so easy to fish in this nice place.

We travel along the stream looking for a place to cross over. Here is a wide, quiet, deep stretch of water; and there it is very fast. We have never been at this exact place along the stream so we must explore to find a safe place to cross. The stream is a challenge and we must get to the other side.

Finally we decide to cross at a shallow place. While it is shallow where we step in, as we go farther into the water it gets deeper. Our exploring feet find a large boulder on the bottom and we walk along it, both upstream and downstream, but we cannot feel its end. Finally we discover that it is not very wide so we step over when, splash, we step into the water over our boots and get wet. A treacherous hole was on the other side. We have a time to get our feet on solid bottom again as we wade back to shore to dry our clothes.

The next day we come back and wade out as far as we dare and we do fish the desirable pool, catching some nice trout. And we see a real fish, the granddaddy of them all. We must get to the other side to reach the place where we saw that real fish play. We try here and there but the current is too swift or the bottom too mucky or too far down. So we keep on fishing, satisfied for the time with what fish we are getting, but all the time thinking of that big one.

As we sit on the bank for our lunch, still pondering on how to cross over, we notice a deer trail. The deer must know how to cross the stream so we follow the trail. Here and there other deer trails merge with the one we are following. Then the trail leads into the water. Looks deep! We try the depth with a staff. Not too deep and, with care, we get over to a sand bar and better going; just an inch to spare on our waders, but we made it.

We hurry to the pool and find that a fishing partner is fishing where we first tried it. We see the big trout again and tell him about it. Then we realize that our small landing net is not large enough to land so great a fish and that our partner has a large net. Our partner offers the use of his net which we accept with thanks.

Then we go after the prize. We are in the right place; we know the fish is there; we are at the best possible approach with the proper equipment. Do we get the prize?

Little need to state the characters in this fable. The first fisherman is the American Honey Industry; the second one, the American Honey Institute. The small trout is the existing honey market. THE BIG TROUT IS THE INFANT FEEDING MARKET.

The props are first the stream, the existing variation in the quality of honey offered to our markets; then the deer trails, the visible means of creating uniform quality (like our system of butter factories and creameries); the desirable pool with its overhanging trees is AMERICAN BUSINESS WITH ITS COMPETITION; the small net is our present industry advertising. The large net offered us is the SEAL OF ACCEPTANCE OF THE AMERICAN MEDICAL ASSOCIATION.

When the honey industry can cross the present current of non-uniform quality honey and come out with a uniform product, then, and only then, can we put forth an all-out effort to catch the infant feeding market. Getting that market will take some real publicity, but first we must have the uniform product that the medical profession will accept so they can back our product without risking their reputation.

The AMA Seal of Acceptance is the first step into this vast market but without uniformity its value is dormant. If the seal is backed with a uniform pack there will not be enough honey in the entire country to supply the market.

A uniform pack of honey can be produced. First, we must have specifications for a blend of honeys, how to heat or not, whether to filter or not, and so on. Second, the honey must be packed under the most sanitary conditions possible. Third, distribution must be national.

Our present commercial honey bottlers could, with a minimum of change, pack such a uniform product if they knew the specifications. Our problem is with the unnumbered producer-packers scattered over the country. The Dairy Industry points the way to the solution of our problem. As a creamery uses cream from hundreds of producers to make a uniform grade of butter so could a county unit honey bottling plant pack honey for many beekeepers who would pay for the service so all could have the same grade of honey for their local trade under their own label. The surplus honey, the amount over the needs of the local

As We See It

MORE BEES BUT LESS HONEY. The west coast states, California, Oregon, and Washington, with twenty-one thousand more colonies of bees than a year ago, produced, according to the estimates, more than a million and a half less pounds of honey than in 1949. Such a reduction can well be laid to unfavorable weather conditions. Reports were that the desert areas were extremely dry during the current season and that moves to the desert flowers were a big disappointment.

Also, the big trend towards working bees on a large scale for pollination may have had a small part in the reduced yield. Where bees are concentrated at five colonies to the acre for alfalfa, sweet clover, or ladino pollination, there is bound to be a slump in honey production in colonies so used. In fact, we wonder, with red clover, whether it may not be found difficult to rebuild those colonies for successful wintering.

Maybe California, which has many times been accused of setting the price on honey because of its earlier crop year, may not play as important a part in the national price picture as it has in the past. Especially is this true since the population of California now challenges that of any other state except New York. And it is still increasing. Not only does this mean that at least some of the former orange and bean fields may have to give way to long rows of houses, but also the increase in population may soon need all the west coast honey that is produced.

The combined honey production of the three coast states above mentioned was around 28 million pounds for 1950. It would not take too great a stretch of the imagination to assume that the population, eating an average of a pound and a half each, may soon be numerous enough to be hunting honey from other states.

The west coast folks are merchandisers. We firmly believe that already they consume more than their share of the national production of honey per capita. No chain store is without its display shelf of honey in various attractive forms. Should cut comb and chunk honey be industriously produced and distributed as it is in the Southeast, no doubt the amount of honey consumed could be greatly increased.

markets, would go into the larger commercial channels. A small sum could be charged for national advertising.

To illustrate, we have in Wisconsin several large private honey packers who are doing a good job of marketing. Should they do custom packing for producers in their areas, the surplus would automatically go into these packers' commercial channels. The problems involved could be worked out with satisfaction to everyone.

The future of the honey industry is at the crossroads. Now that we have a floor under honey we must put our house in order for the time will come when we no longer will have that support. Now is the time to put our shoulder to the wheel and push.

Wisconsin

How-to-do-it

Vacuum the Bees

Recently I brought home a load of supers to extract in my basement. The bees that came along with the supers were a nuisance. A friend of mine, who was watching, suggested that I use the vacuum cleaner to get rid of the bees. I attached the hose to the cleaner and soon had them in the bag. Fortunately, the bag had enough dust in it to absorb the mess.

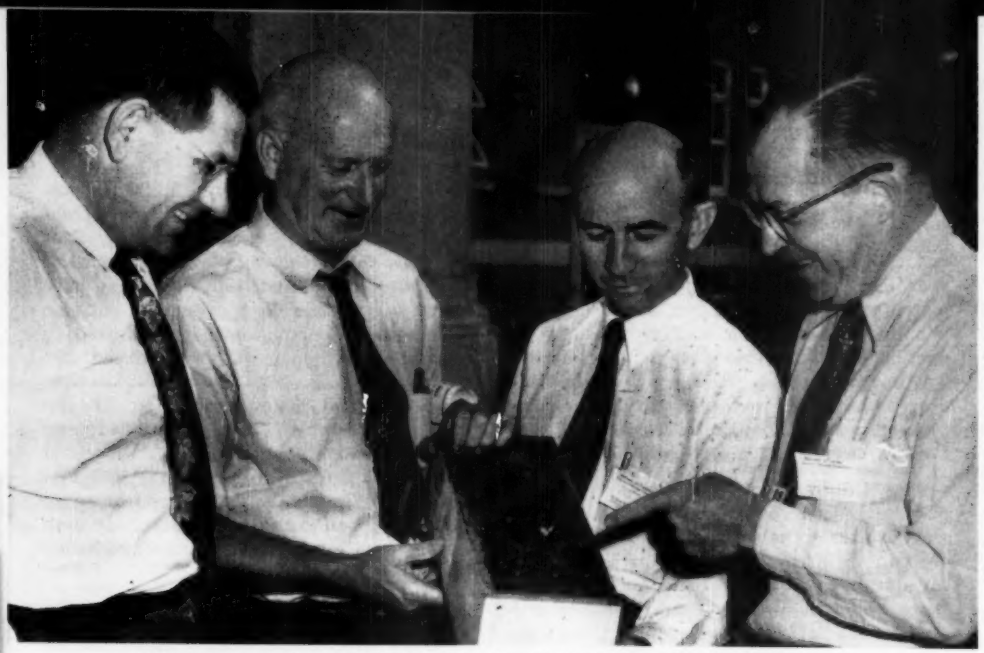
Next I was called to do a bee removal at a residence and again I used the vacuum after I had removed the combs and the bees had clustered. This time I did not use the bag but blew the bees right out.

Joseph Jachman, Illinois

Rendering Wax

A simple way to render beeswax is to use a wooden box or cardboard carton painted black on the inside if possible. Nail two legs on one edge so that the box will set at a 45° angle. Fit a single sheet of wax paper into the bottom edge, turned up at the ends to form a basin to catch the wax. Then fit a window screen frame over this and lay your combs on top. Cover with a piece of glass and let the sun do the rest. A cracked discarded windshield from a body shop will save buying the glass. If the wax is exceptionally dirty, lay a piece of muslin over the screen.

R. N. Crawford, Kansas



Looking over a sample comb of South American bees at the Sixth Annual Pollination Conference at Tucson are, left to right: Dr. S. W. Edgecombe, head of the Utah State College horticulture department and co-chairman of the conference; Frank Todd and S. E. McGregor of the Southwestern Bee Culture lab at the University of Arizona; and Roy A. Grout, President of the Federation.

Pollination Gains Momentum

by Beverley E. Brink

"SOMETHING big is happening" agreed those attending the Sixth Pollination Conference of the American Beekeeping Federation at Tucson, Arizona, in October.

Harry Whitcomb, California beekeeper, said in telling of his experiences in seed alfalfa that "it" was bigger than either bees or seed. "It affects the nation as a whole," he said.

As the comprehensive program unfolded, there was no one present who would have disputed this. Almost 200 beekeepers, growers, research, and seedmen from 19 states and Canada attended.

Three legume seed producers spoke with enthusiasm of their use of honey bees and of the resulting increase in yields. Practically every beekeeper attending had already gone into pollination, or had fields lined up definitely for next year.

We Face Changing Agriculture

"We are facing a changing agriculture," Federation President Roy A. Grout, Illinois, told those at the Conference banquet.

Grout outlined USDA's program for conversion of 48 million acres to grass and legumes. He said that authorities keep coming back to but one solution of our weakening soils —**to turn to a type of farming that includes more grasses and legumes.**

"The beekeeping industry has a real challenge and a real opportunity in helping in the production of legume seed this program will require," he said. "It will result in the establishing of pollination as a recognized agricultural practice. Our future is bright and we have for the first time in the history of our country the opportunity to rise to a position of high regard and importance to agriculture and to our economy."

"Bees are entirely necessary in pollination of clover seed," said R. A. Hunt, manager of a large ladino seed-producing cooperative in Oregon.

Two angles that must be worked out in this pollination are (1) security for legitimate beekeepers, and (2) assurance to grower, Hunt told the group at Tucson.

"The beekeeper," he said, "must be assured of financial and property protection. The grower, in turn, must have pollinating bees in such strength and at such a time to get the job done. Because the latter doesn't know beekeeping, he must be protected against unscrupulous beekeepers. It's awfully easy for a beekeeper to hoodwink a seed producer."

Hunt explained in detail the use of honey bees as pollinators in his co-op and outlined the pollination contracts signed by both beekeeper and grower. "Very little clover in

our area has ever been grown without honey bees," he stated.

Grades Pollinating Colonies

Now, Oregon is putting through a stricter law on bee disease control, establishing grades on pollinating strength of colonies, and inspection of these grades, he pointed out. As set up, this will establish two grades of pollinating colonies — Grade A, which must have 1,000 square inches of brood and corresponding numbers of workers, and Grade B, which must have between 700 and 1,000 square inches brood.

Promiscuous use of insecticides is still a problem in most areas. Seven speakers at the Conference dealt almost exclusively with this problem. Others mentioned it in their talks and discussed it in bullsessions out of the auditorium.

The problem is one which the beekeeper must face, as well as the grower. Maximum crops cannot be produced unless damaging insects are controlled. Most of the effective insecticides are at least relatively lethal to honey bees and wild pollinators. Some, like parathion and the arsenics, can be disastrous.

Dusts By "Checkerboard"

"We use the checkerboard system of dusting for insect pests," said Hunt. Opposite corners of each square-mile dusting area are poisoned simultaneously. Five days later, remaining areas are dusted.

Under this system, beneficial wild pollinators and honey bees won't be compelled to forage in poisoned areas. They can move off poisoned plants and thus are protected from eradication when lethal insecticides are used.

When asked if the bees would actually have the sense to move from poisoned plants, Hunt said, "Yes, we find that if other bloom is available, bees will almost invariably move from a poisoned area."

This method of application could prevent many honey-bee losses if control of damaging insects was approached on a community plan.

In orienting the group the first morning, Dr. L. A. Carruth, head of Arizona's entomology department, explained the principal elements of pollination. He said three main principles, **farming, botanical, and entomological,** must all be coordinated to insure seed increases.

Carruth concluded with the axiomatic warning, "The same principles hold true all over the country, but there's no unanimity about their application."

Woodrow Miller, California beekeeper, agreed with Carruth in emphasizing that operating for pollination is very different than operating for honey production.

"One program," he said, "infringes upon the other if the beekeeper attempts both with the same bees."

The Dean of Utah State College's agricultural school, R. H. Walker, spoke after the barbeque (who can forget the stimulating Mexican salad?). He confirmed the importance of agricultural research.

Utah Gets Million-Dollar Return

Within the last decade, Utah has spent $100,000 on alfalfa research. That much of it was devoted to pollination is a credit to the persistence of Dr. S. W. Edgecombe, head of Utah's horticulture department and co-chairman of the Honey and Pollen Plants Committee.

This research, according to Walker, **is now returning $1,000,000 each year in new revenue to the state.**

Results of that research, incidentally, are set down in the practical Utah Experiment Station booklet, "Producing Alfalfa Seed in Utah" (Circular 125). The book is written in a non-academic fashion for popular digestion.

Perhaps it is an indication of the trend expressed by Arizona entomologist Frank Todd, **"What agriculture needs is practical research."**

Walker attributed the success of Utah's research program to "cooperative group effort." "A single individual tackling a problem finds progress difficult," he said. "Agriculture has become so specialized that we can go faster and farther pulling together, we find."

Grower Testifies for Bees

Maurice A. Perry, California, said that it wasn't many years ago that he, as a grower of alfalfa seed, didn't want a bee on his farm. The theme of his conference talk, however, was "bees have a vital place in the production of seed."

Wild bees will cross-pollinate a crop, but there aren't enough of them and they aren't reliable, he said. At the same time he warned bee owners against charging too high a price for their services.

"If costs gets too high, seed operators will buy their own bees," he predicted. "They could profitably operate them for one season's crop and then kill them."

"We think it wise that growers not go into beekeeping. We do not recommend it," countered Hunt, in commenting on speculations by speakers that seed producers would buy their own bees if pollination rates become too high.

He thought it unlikely and impractical because inexperienced beekeepers would add to the nation's disease problem. Nor would they be likely to operate them for maximum pollination efficiency. Also, in his Oregon area, there are no auxiliary honey and pollen plants to sustain colonies during periods when legume crops aren't in bloom, Hunt said.

Inefficient harvesting seems to be the nigger in the woodpile. Though a few growers and beekeepers are making ingenious conversions in harvesting machinery, few present machines can accommodate the small legume seeds without losing a lot.

(Please turn to next page)

A progressive California grower-beekeeper combination—Maurice A. Perry, alfalfa producer, and Harry Whitcomb, pollinating beekeeper.

Observations on the Effect of Methoxychlor

IN Massachusetts, growers of cultivated blueberries find it necessary to apply an insecticide during bloom for the control of certain pests. In 1949, Shaw and Bailey carried on some experiments with DDT as regards its toxicity to bees when applied during bloom.

Some investigators have stated that Methoxychlor, a member of the "DDT" family, was less toxic to bees. The following experiments were conducted to attempt to determine the effects of Methoxychlor as applied under field conditions.

Two colonies of bees were moved to the blueberry plantation at the University of Massachusetts two days before the first insecticidal application was to be made. One colony had been overwintered and was considered to be of good strength. The second colony was one obtained from a two-pound package of bees installed about April 18. Both colonies were placed on scales. Daily observations of the weights were made between 7:30-8:00 a. m. Weather observations were obtained from the Observatory located at the University. These are recorded in Table I.

On May 31 at 1:30 p. m. the entire plantation (1.25 acres) was dusted, using 35 lbs. of 5% Methoxychlor dust. Prior to the dusting, solitary bees and honey bees were caught on blueberry bloom and placed in a screen cage. Following the application of the insecticide, both solitary and honey bees were collected from treated bloom and placed in a second cage. The two lots of bees were then taken to the Apiary, provided with sugar sirup and water and observed. The data are recorded in Table 2.

Following the application of the dust, a few adult bees were observed crawling about in front of the hive. The colonies were opened and no evidence of abnormal brood was observed.

On June 6, the same plot was sprayed using 3 pounds of Methoxychlor-100 gallons of water. About 350 gallons of spray were applied. Few, if any, crawling bees were observed following this application.

The weights of the two colonies are recorded in Table 3. It should be noted that colony No. 2 had a new super added on June 9 which increased the colony weight by 14 pounds.

Discussion

Observations on bees captured on bloom:

On the basis of the data obtained from bees captured on treated and untreated bloom the evidence indicates that Methoxychlor was not

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Pollination Gains Momentum

(Continued from Page 535)

One of the resolutions passed the last day of the Tucson Conference sponsors further research on better legume harvesting machinery. Most of the standard models will not accommodate legume seed without mechanical revision.

The legumes all have their seed-harvest peculiarities—ladino clover, perhaps being the most bizzare. Harry Whitcomb told of a technique he has developed.

Ladino seed pods pop open, scattering seed in all directions, the minute the pods are ripe. Whitcomb hauls hay and all to a nearby practice airstrip. Here he spreads it on the concrete. Seed pods pop open harmlessly on the cement and are then swept up mechanically and threshed, eliminating the big field loss.

Perry Re-Builds Combines

In his alfalfa operations, grower Perry uses a unique method for harvesting small legume seeds. He uses two combines at the same time.

Most standard combines aren't built for small seeds, he told the Pollination Conference. "We tear our combines apart as soon as we get them, and rebuild them, using more and finer sieves," he said.

Then, just to make sure he keeps the harvesting loss to a minimum, Perry uses two combines, one hitches behind the other with a canvas tube connection. Chaff from the first is blown right into the hopper of the second.

"We used to have a two-to-one loss during combining," he said. By putting the alfalfa through the combine twice, he has cut his seed loss during harvesting to 1½ pounds per acre.

Largely because of the use of bees, alfalfa seed production in California has jumped from 3,800,000 pounds in 1948 to 26,000,000 pounds in 1950, Whitcomb pointed out.

Urges Community Approach

"If the honey bee is the key to increased yields, it is time we were giving thought to how beekeeping can be stimulated or how the available supply of bees may be used more efficiently," said Frank Todd, head of the Southwestern Bee Culture lab at Tucson.

"Although a million colonies are located in the eleven western states," he said, "only half of these are owned in lots of 100 or more."

He talked of redistribution of our bee population to cover more seed areas adequately.

"In a community approach the available supply of pollinators could be used more effectively by staggering the alfalfa cuttings left for seed," he recommended. "This would result in more effective pollination at less expense to the grower."

Conference Accomplishes Much

In summing up the Conference, Dr. S. W. Edgecombe, co-chairman for the event, told delegates, "We have accomplished much in the past three days and it appears that one of our major problems, at least, is nearing solution. That is the problem of beekeeper and seed producer relations. We are developing an increasingly cooperative spirit between the two."

One of the Conference's 14 resolutions also touched on that subject, urging beekeepers' organizations and seed grower groups to hold joint meetings on the local and state level to aid in the solution of their common problems.

The resolutions urged adding state and national apiculturists to the extension service, putting honey and pollen plants into the range-reseeding program, expansion of their use in the Soil Conservation program, and further research on pollination, insecticides, and harvesting.

on Bees *

by F. R. Shaw and J. S. Bailey

very toxic to bees. In the case of the honey bees the time required to produce 50% mortality was 90 hours for those taken on treated foliage as compared to 114 hours for those from untreated bloom. However for 100% mortality, 186 hours were required for those from untreated bloom and 234 hours for those from treated bloom.

In the case of the solitary bees the evidence is not as clear-cut. This may be due to the fact that more than one species of solitary bee was included. However the length of time required for 50 and 100% mortalities was greater for bees recovered from treated bloom than from untreated bloom.

From the standpoint of losses of field bees, as was reported for DDT in 1949, there was a reduction in weight of the stronger colony following the application of the dust. No such immediate drop was observed for the package bee colony.

The loss of weight on June 1 (1.75 lbs.) is without doubt correlated to the heavy rain (1.35 inches) on that date. The increase in weight beginning June 6 would correspond to the beginning of the clover honeyflow. Apparently few bees were visiting blueberry at the time the spray application was made.

A comparison of the loss of weight of an overwintered colony as compared with that of the package bee colony would indicate that the smaller colony suffered less loss, probably due to the fact that fewer bees were in the field at the time of application.

Conclusions

From the observations recorded during this season's experiments, it is believed that the use of Methoxychlor as applied in this experiment will not offer a serious problem to the beekeeper. In the case of the dust application, there was a greater loss of weight for that day than on preceding days. However with the start of the clover flow, both colonies showed increase.

References

F. R. Shaw and J. S. Bailey, 1949. Effects of a 5% DDT Dust on Honey Bees. Gleanings in Bee Culture 77:558-559.

*Contribution Univ. of Mass.

TABLE 1—Weather observations during course of experiments.

	Max. Temp.	Hours of Sunshine	Rainfall	Wind Direction	Wind m.p.h. (max.)
May 28	72° F.	10.1		NW	9
May 29	64° F.	0.3	.37 in.	SW	9
May 30	75° F.	6.5	.11 in.	SW	7
May 31	77° F.	5.6		W	12
June 1	69° F.	0	1.35 in.	W	9
June 2	78° F.	13.9		NE	14
June 3	79° F.	5	.03 in.	SW	25
June 4	67° F.	10.3	.37 in.	NW	20
June 5	76° F.	13		W	12
June 6	84° F.	8.2		SW	9
June 7	89° F.	10.3		SW	6
June 8	90° F.	9.5		SW	11
June 9	90° F.	11.2		S	12
June 10	85° F.	6.9	.81	W	18
June 11	71° F.	12.7		NE	17
June 12	74° F.	13.7		NW	6
June 13	78° F.	11.1		W	10
June 14	70° F.	3.3		W	7
June 15	78° F.	10.9		NW	7
June 16	79° F.	9.2		W	13

TABLE 2—Observations on the length of life of bees recovered from untreated vs. treated bloom.

Number of Hours after Capture	Number of bees dead: Untreated Bloom, Solitary Bees	Untreated Bloom, Honey Bees	Treated Bloom, Solitary Bees	Treated Bloom, Honey Bees
18	2	2	2	0
42	1	0	2	0
66	4	0	1	6
90	0	4	0	3
114	2	2	0	1
138	0	4	0	1
162	0	0	0	2
186	0	2 (all)	2	3
210	2	-	0	1
234	0	-	1	1 (all)
258	0	-	0	-
282	1	-	0	-
306	0	-	1	-
330	1	-	0	-
354	0	-	2	-
378	1 (all)	-	1	-
402	-	-	1 (all)	-
Total	14	14	13	18
Time in hours for 50% Mortality	66	114	186	90
Time in hours for 100% Mortality	378	186	402	234

TABLE 3—Colony Wts. in Lbs. May 29-June 15

Date	Colony No. 1 Overwintered	Colony No. 2 2-lb. package installed April 18
May 29	134	52.5
May 30	133	52.0
May 31	132.5*	51.5
June 1	130.25	51.5
June 2	128.50	51.25
June 3	128.0	50.25
June 4	127.50	51.0
June 5	127.50	50.75
June 6	128.75**	50.75
June 7	132.0	51.25
June 8	136.0	52.75
June 9	138.5	54.50
June 10	139.0	68.50 added second hive body—14 lbs.
June 11	138.5	68.75
June 12	137.25	69.50
June 13	138.25	69.25
June 14	139.25	69.50
June 15	140.00	69.75

*—Dust application—35 lbs. 5% methoxychlor.
**—Spray application.

One of the author's outyards.

Advice to Beginners

by Frank E. McLaughlin

To each and every reader of the American Bee Journal, I extend my warmest friendship and best wishes for a very Merry Christmas, and a Happy and Prosperous New Year in Beekeeping.

The letter I have chosen to answer in my department this month comes from H. V. Doore, of Charles City, Iowa. Mr. Doore's colonies of package bees swarmed two or three times this summer, and he is at a loss to know why.

During swarming season, there must be plenty of room in the brood nest, good ventilation, some shade, and frequent inspection. If crowded conditions exist in the brood chamber, the bees are bound to swarm. The chamber can be crowded even though it contains foundation. Unless there is enough nectar coming in for the bees to draw the foundation out, the queen has no place to lay. Or if all the frames are full of brood, pollen and honey, the brood chamber will be congested.

Good ventilation is very important in summer and winter. Poor ventilation in hot weather causes the bees to hang out at the entrance. These bees slow down the field bees coming in with nectar. Poor ventilation will also cause swarming. Bees should have the full bottom entrance in summer with the cleat taken out.

There are various methods of top ventilation used. I use a screen wire cover directly over the frames. The cover frame is made of ⅞-inch pieces of wood, rabbeted and nailed at the corners. It is the exact dimensions of the top of a hive body. Screen wire is tacked on the frame, and flat screen molding tacked over the screen wire. The screen wire cover is placed molding side down on top of the hive. Then I have a frame made of 1x2-inch lumber, the exact dimensions of the hive, with three ⅞-inch holes bored in one end, and the holes covered with screen wire on the inside. I place this over the screen frame, holes in back. On top of this is the lid. This method can be used with flat covers. If telescope covers are used, a ⅞-inch strip of wood can be nailed up underneath the lid on each end, and when the lid is put on it can be slipped to the back, allowing ventilation through.

Frequent inspection is another way of keeping down swarms. Bees should be checked often during swarming season.

Mr. Doore asks if a shallow super on the bottom with a queen excluder on top, and the brood chamber above the queen excluder, would stop the bees from swarming. I believe it would make swarming worse. The bees could still raise a young queen and the virgin would possibly kill the old queen and go through the excluder to mate. When she came back from her mating flight, she could set up housekeeping in the shallow super below. Although if there was plenty of dark brood comb above the excluder, there is a possibility she would go back up to the dark combs and establish her brood nest. Queens prefer dark comb to lay in.

Mr. Doore asks my opinion of disease resistant bees. Some strains of disease resistant bees are dark and more or less a cross type of bee. Swarming fever seems to be bred in these bees. From my experience, the Dadant Starline Hybrid resistant strain is a gentle type of bee, a nice color, and is not inclined to swarm.

Mr. Doore hived two different strains of package bees, one kind April 27 and the other May 6, and although they swarmed, one strain did much better with honey surplus than the other. I am wondering if the two strains of bees were placed in the same yard. The location can have everything to do with honey crops.

There is a possibility the packages that didn't do so well, got a bad start. In Mr. Doore's location the 27th of April may have been too early to hive package bees.

My correspondent asks about requeening in the spring, around the middle of April. A young queen in the hive in the spring would definitely lessen the impulse to swarm. From my experience the middle of April is a little too early. I would say from May 1 to May 15 would be plenty early.

Can a bee escape be used to get the old queen out of the hive? The only sure way I know to remove the old queen is by inspecting each frame until the queen is found and removed.

Is it safe to close the bottom entrance entirely in winter, leaving only the small hole near the top of the hive? The bottom entrance if closed would prevent bees from carrying out the dead bees. The result would be a moldy, soggy mess of bees on the bottom board in the spring.

Florida Know-How

by M. G. Dadant

Florida is paving the way for other states in its activity in beekeeping lines. The Honey and Bee exhibit at the Florida Fair last year is an example.

Not satisfied with their former comparatively fine exhibits, the Association hired an engineering specialist to lay out their exhibit and an outside engineering firm to build the exhibit for them. Florida beekeepers believe in the value of advertising and as a consequence, they came from all over the state to exhibit and sell honey. It was one of the finest and most successful of their many fairs.

The Ladies Auxiliary cooperated with a large list of entries and exhibits in the food and culinary department, and the Extension Service told the story of bees in an educational way. This department proved a drawing card for 4-H clubs and Vocational Agricultural students and instructors. Hundreds of American Honey Institute booklets were either sold or given away during the course of the fair.

F. C. Markham took first prize among producers' exhibits as well as winning the state trophy presented from the office of Nathan Mayo, Commissioner of Agriculture for the state.

The power of unified cooperation as well as of well planned advertising was definitely proven by the exhibit and by the results both in an educational way and in direct financial returns to the commercial exhibitors.

Naturally the Florida beekeepers are enthused and expect to interest still more beekeepers in joining with an exhibit for 1951.

Not only does Florida have a full-time bee inspector in Hardin S. Foster, but also in John D. Haynie's hands the extension work is speeding along. They also have F. A. Robinson who is in charge of investigations in the honey plant field. He was formerly with the Southern States Bee Culture Laboratory at Baton Rouge.

(Above) The activities of the hive caught the interest of all who passed by.

(Below) The exhibit of F. C. Markham which won first prize and the state trophy.

Discussion . . .

With this issue we finish the discussions for the year. Any contributions which have not been used on this page will probably appear as short features in the Journal in later issues. It has sometimes been impossible to use all the material on a given question. This month we are including comments on three questions . . . .

What have you found to be the simplest and most efficient way to winter bees?

Julius Lysne, Wisconsin.

I wish to add a few thoughts as wintering has long been my pet interest in beekeeping. In the September issue the writers brought out most of the fundamentals; namely, a strong winter cluster of young bees, an abundance of honey and pollen within reach, a quiet sunny spot with a good windbreak, upper ventilation with the inner cover raised an eighth of an inch or with the bee escape hole open with small holes through the rim, so the condensed water can seep out, in preference to the auger hole in the hive.

Using the shallow side of the bottom board the year around reduces labor. Packing is not necessary, but black tar paper wrapped around the hive does two important things—it acts as a windbreak and absorbs the sun's radiant heat, thereby reducing the heat loss of the cluster and at the same time lessens the condensation. Bees will winter efficiently in a dry hive, the principles of wintering being the same everywhere. . . . .

Merritt Taylor, Virginia

What strain or race of bees has proved most satisfactory under your conditions?

Julius Lysne, Wisconsin.

We have had experience with only two races of bees—the Caucasian and the Italian. Caucasians are very gentle and easy to handle, but their chief fault is that they carry in large quantities of propolis. This can be overcome by using the shallow side of the bottom board the year around. The supers can be staggered to provide ventilation in summer in extracted honey production. Caucasians are good producers and can be kept anywhere. Italians are also good producers and not bad swarmers. They are best for comb honey production as they carry less propolis. Caucasians possibly winter better than the Italians, and they have a longer tongue so it is possible they are better pollinators.

For both comb and extracted honey production, we find the Italians best. Both races cannot be kept in the same yard, for if they mix it will result in a very cross strain of bees. . . . .

Julius Lysne, Wisconsin.

From my experience, I prefer the light yellow Italian bee for central Missouri. I keep both the dark or regular Italian and the light yellow. The yellow strain is better for comb honey production as they are better finishers, more resistant to natural enemies and rob less. For honey production alone, there is little difference in the regular Italian, our native black bee and the yellow Italian. Yellow Italians are more gentle, cleaner housekeepers and do not wax and stain frames. I sell honey in shallow super frames and the demand cannot be supplied, while extracted honey sugars on the shelf. . . . .

John W. Ponder, Missouri

With so many types of hives in use, can it be said that one hive is any better than another? What changes or improvements in bee equipment would you like made?

Arnt Arneson, Wisconsin; Charlotte B. Waldron, Pennsylvania.

There are weaknesses in the factory-made hives. Thousands of beekeepers use them in ignorance of their bad points. Being dissatisfied, I have for 16 years devised new hives with what I thought were improvements. Then I stumbled upon the first great improvement.

This was a hive with combs parallel to the entrance.

Feeling that the Hoffman frame was poor in several ways, I made frames having end bars with square edges and made them 1½ inches wide the entire depth. I had springs made 8 inches long and ½-inch wide. These had a curve at one end to enable one to pull them out of the hive. A thin follower, with ends made to bring it slightly away from the rear comb, was made and placed back of the rear frame. A spring at each end pressed frames so close together that no bee glue was used by the bees between the end bars. This allowed drone comb only in the front frame. Thousands of Hoffman frames this very minute have triangular patches of drone comb in each lower corner.

The hive had to be set level to prevent the combs from sagging to the front. The bottom board was beveled so that water would not get into the hive. By working at the back of the hive and seldom removing the front comb, there was far less danger of stirring up stinging bees and offering entrance to robbers.

My hive was double-walled for better wintering, but I found that the double wall is better in summer than winter. It helped the bees keep the hive cool. In winter the air inside a double-walled hive is only slightly if any warmer than a single-walled hive. My hive had the bottom fastened on, so there was no tiering up. Years of experience told me that was of little importance. I found that having only nine combs instead of ten was not good and were I to remodel my hive, I would make the body big enough to hold ten frames and follower.

The entrance was about one inch deep the full length of the hive. The winter entrance was made of a strip of wood one inch deep with a slot ⅜x16 inches. This big entrance helped keep down moisture in the hive in winter.

I found my colonies did not have enough honey for safe wintering so I made my "safety cover." This was two years before George Demuth began to write about his food chamber. The purpose of the food chamber was the purpose of my safety cover. I made frames with solid top bars and end bars, 1½ inches wide and ⅜ inches thick. Bottom bars were a generous ⅛ inch thick and about 1¼ inches wide. Two of the top bars had cuts in the middle so that when placed together an opening would allow a bee escape.

Although designed to help safe wintering, my "safety cover" proved to have three or four valuable uses. When supering, if a colony was not quite ready, the super could be placed over the safety cover and a few days later could be placed beneath the safety cover. Swarm control was helped greatly by the use of the safety cover and in winter the bees had free passage over the top bars and ready access to stores of honey.

The most valuable feature of my best and final hive model was its

wintering qualities. A few years ago 75% of all colonies in New England winter killed. I did not lose a normal colony. Out of 400 I may have lost three or four because of queenlessness or poor condition otherwise. Every normal colony lived through the winter.

Two of my grandsons in Minnesota have adopted my hive. Last winter only the colonies outside in my hives wintered, those in hives placed inside died. Bees, if close to stores, seldom die in winter if they have an entrance large enough to keep the inside air fairly dry. In my let-alone hives, with an entrance 18 inches long and one inch high the year round, they always winter well. To what extent this is due to combs parallel to the entrance may be questioned, but I have 100 per cent confidence in the great value of side entrances. . . . .

Allen Latham, Connecticut

The best improvement in hives is the use of deep frames. Beemen are using larger hives all the time. With only eight frames too many colonies did not live through the winter. I like ten-frame, two-story hives for winter and I use ten-frame hives for both extracted and comb honey production.

A. A. Lyons, California

In this discussion, I am considering the size and shape of the brood nest and food chamber only in comparison with present hives, and assuming use of a lower entrance. Large surpluses depend upon large brood areas and feed. I would like to use an eight-frame hive with frames 12 or 14 inches high, and a super of eight-frame standard size, weighing about 65 pounds at the most when full. Where I now use 4 or 5 bodies, I would use 5 or 6. The best argument for the eight-frame hive is the ease of carrying. If used with plenty of depth for brood, the queen has the most satisfactory arrangement. She likes to expand upward instead of to the side. The only argument against this is that the hive becomes too tall, yet this can be overcome by tiering only 4 or 5 stories high and extracting oftener. With large frames to begin the brood nest, there is no delay at the time the colony would normally graduate from one standard body. The double-depth frame is ideal, but requires a couple of follower boards to facilitate removal. It is also necessary to have a middle entrance only, so the brood will join close to the supers without a rim of honey in the upper portion of the brood combs. .

Anonymous

I would like to see frames made with top bars ⅝ inch thick, no groove or cleat, and holes bored in the end bars so that the top wire would be ¼ inch below the top bar. Tons of foundation are wasted because they are placed in a slot in the top bar to no good purpose. Further this idea provides for another row of cells at the top. This is not a new idea. It was used by the older Pettit and also by his son Morley. I have used it for fifteen years and find no disadvantage as yet. . . . .

E. G. Carr, New Jersey

Why can't we induce our bees to thrive just as well in a six-room flat as in a skyscraper? I have several old American hives which use frames 12 inches square. A board is used as a retaining wall and the workers go on beyond this wall and store the honey at any distance required, whether it be one foot or four feet or more. I have not used these old hives as they do not work well with modern supers. However, certain simple changes would readily permit combining the principles of both.

The question is this: will the morale of the bees be the same in a series of standard bodies set on stands side by side? Certain beekeepers last year advocated the plan of the brood nest and one super side by side with added supers to be placed on top of the first super, thus giving access to the brood nest without disturbing the supers. What were the results of these experiments?

The hive bodies would have to be provided with openings through the sides of the lower bodies to permit the bees access to storage space alongside the brood nest until they adapt themselves to the idea of the fallen tree. . . . .

J. H. Sturdevant, Nebraska

We have had experience with the eight-frame and ten-frame hives only. Most beekeepers will agree that any equipment that allows for ample brood and storage space will assure success. More and more it is becoming apparent that three hive bodies of ten-frame size are needed for year round operation. This allows 90 or more pounds of stores for a powerful colony to go through winter. Swarm control is effected by simply interchanging the hive bodies to allow for the upward expansion of brood. At the beginning of the honeyflow a ripe queen cell is given the bottom chamber and over this is placed a queen excluder and a body of drawn comb. Add the second brood chamber and then the inner cover with the bee escape covered with queen excluder zinc. At the top, place the other brood chamber containing the queen. Provide upper entrance and allow the old queen to lay until two weeks after the new queen in the bottom is mated and laying. This system may also be used with eight-frame equipment, and works well in comb honey production except that no excluder is placed over the bottom chamber.

We need a chemical that could be added to smoker fuel to quiet the bees without harming them. Another wonderful invention would be a chemical that would ripen honey from combs that have not been capped. Thus the headache of uncapping would be eliminated. Another development needed is a chemical that would kill bees without affecting the honey. Add to this a safe method of cleaning sticky combs without the help of the bees, and taking the honey crop would be a lark. We would only need to destroy the bees and work in perfect freedom from stings. . . . .

Julius Lysne, Wisconsin.

Answering Your Questions

What is a queen reservoir and how is it made?

A Reader

The queen reservoir is merely a box like a nucleus box made with end rabbets to hold several combs, usually five. There is also a comb spacer under the bottom bars to hold combs from swaying when box is transported. One of the frames in the center is made with a shelf to hold two rows of queen cages facing either direction. Queens without attendants and with candy holes closed tightly are carried in this frame on the shelf and from time to time the box is given additional brood as needed. Queens will reservoir in this box from a week to two weeks without much loss, but after that some will be lost. The box is queenless or it can be a queenright nucleus. Either is satisfactory.

These three pictures illustrate the general condition of the roadside before and during the weed killing experiment. (Photos courtesy Purina Experimental Farm, Gray Summit, Mo.

BEEKEEPERS, as a group, have been greatly alarmed about the widespread use of the new weed killers. In most instances, they have observed the destruction of bee pasture as a result of these programs. The general acceptance of 2,4-D and the related compounds, and their indiscriminate use to control any and all plants except the farm and garden crops, would certainly destroy many of the plants of importance to the beekeepers.

In view of the fact that beekeepers are alarmed at the weed control program, it might be of interest to examine a demonstration plot and observe the effects of a thorough weed control program. This project was begun two years ago, and included either side of a mile long stretch of farm-to-market road from Highway 50 at Gray Summit to the Purina Experimental Farm. A deep drainage ditch runs along the west side between the road shoulder and the property line, and the road shoulder on the other side extends to the railroad cut. As a result of the ownership pattern the area was allowed to grow up as it pleased. This eventually resulted in a complete shrub and tree coverage of the area. In this particular location the elms were the most common, with willows, maples, and a few other species in favored spots. Shrub growth included a wide variety of native material and the rest of the area was occupied by herbaceous plants, of which the goldenrod was probably dominant. In cooperation with the Missouri Pacific Railroad and the County Court, Mr. John Wear of the Purina Research Farms was able to test the efficiency of 2, 4-D. The material used and the method of application was very efficient, and resulted in almost complete kill of all the plants in the area. During the summer after this application the stems of the dead woody plants projected over the very limited herbaceous cover, and it appeared that this area could be ruled out as bee pasture for some years to come. However, during this year an astonishing crop of sweet clover has covered both sides of the road, and it is one of the best bee pastures in the immediate vicinity.

It would appear that in this case at least the use of weed killer simply restored the sweet clover pasture which had been slowly invaded by

Weed Killers and Bee Pasture

by August P. Beilmann
Missouri Botanical Garden
Gray Summit, Missouri

brushy growth and in the short space of three summers brought the clover back for a maximum growth. Of course, what has happened along this roadside is no indication that weed killers are likely to restore the pasture in all areas. Needless to say, there must have been adequate sweet clover plants and seed carried over from previous years, and since the limestone was exposed in many places there was no need to add lime. The removal of the woody overstory simply gave the bee pasture a chance to grow. The same thing might have been done at a great expense with men and grub hoes. In this case, at least the use of 2, 4-D was beneficial to the beekeeper. The restored pasture had been destroyed by woody plants; in another area under other conditions no renewed growth of sweet clover might have occurred. But if these weed killers, like all other agricultural tools, are used with a degree of discretion, they may even increase the bee pasture rather than destroy it completely, as many beekeepers have believed would happen.

(Left) The dead woody overstory sticking up through the sweet clover. (Right) Both sides of the road were solid brush and small trees—now a bee pasture!

As We See It

A MENACE TO THE INDUSTRY. The movement of bees by truck during the past year has increased due to necessary migration to better bee pasture, pollination activities, and the excessive express rates on package bees. In some cases, colonies have been moved without screening and properly closing entrances or taking other proper precautions. This has resulted in too many cases where honey bees have become a nuisance to people along the route traveled. This is a very bad thing for the beekeeping industry and its product—honey.

Ours is an interesting industry. Everyone finds enchantment in the story of bees and how they make honey. But no one likes to be stung and people generally are afraid of bees.

We have gone far in our education of the public that honey is a natural, delicious sweet, thanks to the American Honey Institute. We have made great progress in selling the importance of honey bees to agriculture through pollination, thanks to the Honey and Pollen Plants Committee of the Federation. Let's not spoil these and many other beneficial efforts through careless movement of colonies of bees.

Cover Contest

With the continuing interest in the contest shown by our readers, we have decided to keep the cover competition going next year. So it is not too late for you to send us your favorite picture. More and more really fine photos have been coming in and we appreciate the interest shown by our readers.

Rules

These are simple—not more than two pictures from the same person will be used in one year for the cover. All payments will be made after publication. Pictures not accepted for the cover may be used as fillers on other pages.

Send **glossy prints** 5x7 inches or larger. If your picture is small send the negative and we may be able to enlarge it. Pictures may be either posed or natural shots, and should be of unusual interest, dealing with some phase of beekeeping or related subjects.

There will be only one award next year—$10 for the cover winner. The break page is being discontinued.

The Cover Winner

L. F. Bowman

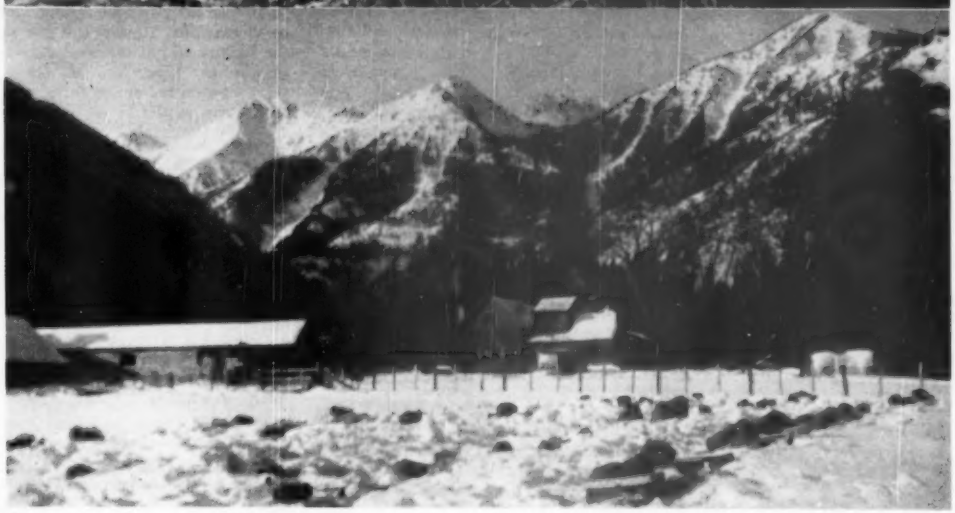
Hilliards, Ohio

Mr. Bowman does it again. Remember the little boy peeking in the hive on the cover of our July issue? Here he is again, a few years older, with his little sister, enjoying some good comb honey. Maybe it's a Christmas breakfast!

The boy, Tommy, is eight years old, and as the picture above shows, is quite a help with bees. His father says he is willing, however, only when well protected with veil and gloves! (Father also wore a veil when taking the picture.)

Mr. Bowman says he has no special way of producing comb honey. Regarding the arrangement of supers in the picture, he says he often places a shallow extracting super on the top of the comb honey supers during the biggest flow. It is filled with good quality honey which in turn is left on the hive as winter stores. In this particular case, some of the comb honey had been placed on top over a bee escape the day before. The bee escape board was removed just before the picture was taken.

The little girl, Deborah Ellen, is the youngest daughter, aged three, and the twinkle in her eye is always present when good comb honey is around. Honey is present almost every meal on the Bowman table.



Break Page Winner

Grace Pfister

Joseph, Oregon

Joseph, Oregon, is in Wallowa County in the northeastern part of the state and near Wallowa Lake. The two pictures from Mrs. Pfister give us a fair idea of a good sized bee yard in both summer and winter within the encircling arms of the mountain range. Congratulations, Mrs. Pfister.

This ends the twelve-month run of second choice pictures for this page. We have decided to confine the picture contest next year to the cover for the usual ten-dollar pot. So many good pictures have been accepted that it seems wise to let the contest run another year. Try your hand at it. Details are given on the Cover Contest page at the left. If you don't make the grade with a cover picture you may still have a picture good enough to use in an illustrated short item.

Time was when snap shots seldom had enough character for publication. The camera makers have certainly overcome a lot of handicaps in picture taking and camera fans abound in every nook and corner. For January, Ben Knutson has already captured first, as he did last January. He's hard to beat. His picture of the flying bee last January has literally been sent around the earth to other papers who have asked him for prints of it. We are not all Ben Knutsons, but we think this contest should offer a challenge to any camera fan among beekeepers. Bowman (see opposite page) rang the bell twice this past year too, so it can be done.

All Around the Bee Yard

G. H. Cale

The choice of bee equipment is never settled. It shouldn't be. Beekeeping must constantly change as other things that show progress also change. But everyone, sooner or later, who keeps bees, figures out a new piece of equipment for everything he does. The most bewildering ideas are on beehives. I have been through that mill. We had the old Langstroth portico hive on the farm; about like the present streamlined ten-frame. When inspecting bees, hives of all shapes and sizes were in use and for each the owner had a sales talk. Later I kept bees in the conventional ten- and eight-frame hives; in the Carey and Danzenbaker shallows; then in the old style Dadant and the eleven-frame Modified Dadant. Give me either of the last two. My bees are all in old style Dadant, with a modernized bottomboard; otherwise, just as C. P. Dadant used it. My contention now, after all this experience, is that I can care for more bees with this hive in no more time. As for crops, any of them will do. The hive is just a tool after all.

———o———

E. L. Sechrist suggests that the present hive may be all right but the hive entrance is wrong. When the entrance leads in to the ends of the frames, as it now does, the hive is a "cold hive." He thinks the entrance should be at what is now the side of the bottomboard so the air would meet only the lower face of the first comb. That he calls "the warm way." I do think that the comb damage from gnawing, corner cutting, and so on would be less. Likely that first comb would bear the brunt of it. Also it is reasonable to believe that the hive would be warmer. It would require little change in equipment. Years ago we used the old American hive that had the entrance that way. The combs were narrow side to side and quite deep. It was satisfactory but the American hive did not continue in use long and I don't recall having seen one for many years. However, that "warm way" entrance would be worth a try.

———o———

Well, we do move along towards working together. I have made cooperation in beekeeping the subject of talks for years. Few listened since we are more fiercely individual than most farmers. We want to do things our own way on our own time and we don't want to pay anyone else to do any of it. When I have suggested that beekeepers work together like other farmers, hecklers have asked me if I am a communist agent wanting to bring about a collective.

But the idea takes hold. We have been working with our bee gang for years on a cooperative basis. A letter from George Nagel in Saint Louis tells about the association arranging with one member to have a common honey processing plant. Minnesota plans a honey packing cooperative where members can have honey packed ready for market under their own label. That means good packaging equipment, good containers, good methods, low cost.

———o———

Carl Killion has a novel and profitable approach to pollination. An advertisement in his paper titled "Honey Bees and Clover Seed" called the attention of farmers to the need for bees and that he might do them some good. When farmers inquired here was the deal: I'll put in the bees, you plant sweet clover enough for them to make a crop. I get the honey; you get the seed. It works. Carl got one of his best crops this year. Said one farmer: "I have 27 acres of Ladino, 30 acres of alsike and I will plant you 40 acres of sweet clover and let it bloom if you will put bees on my farm." Says Carl: "This business of renting bees for pollination regardless of whether one gets a crop of honey or not is plain nonsense to me. If I were not sure of getting some honey I would not move my bees for ten dollars a colony. I could not maintain a colony for twelve months on ten dollars. I want the farmer to grow honey plants along with his clover and our service then is free."

This makes sense to me. Where the growing of seed is big farming and bees are critically needed, the beekeeper must get a seed share from the ground up. Where seed is incidental in farming, as in red clover, maybe Carl's idea is the best one. We have one place where growing sweet clover for seed is increasing. If we could deal with farmers for a small per cent of the seed it would be worthwhile. However, if we want the farmer to put in sweet clover so we can get honey and let the bees serve him on his entire farm, maybe all we can expect is the honey crop.

———o———

The newer big-time beekeeping gets me down. Just learned of one man in the South with 1000 colonies who moves to three or four honey crops a year and takes seed shares in on the deal. He must have a strong back and work like a stevedore. So far I have not gone into pollination service. Looks like I'm a chump not to do so. Last month, Brink says I must sell the idea of my bees for seed to the farmer instead of waiting for the farmer to come to me.

———o———

All reports are that the present market trend is up. Offers here for honey in 60's, delivered, vary from 10 to 12 cents for table grade. That's better than a year ago. Also more calls for honey have come in without solicitation than for several years. Looks like that nine-cent floor had firmed the market considerably and we hope that the descent to ruinous below-cost prices will not return again. Many of the larger beekeepers have quit in the past few years. More would have if they had not been able to get into pollination service. Since the larger beekeepers seem to be the ones making up the majority of those who have turned from honey production to seed production, maybe the total honey crop will diminish so the supply will hold the market steady and gradually raise the base price.

The Federation

Dr. S. W. Edgecombe, head of the Department of Horticulture at Utah State College. He is also co-chairman of the Federation's Honey and Pollen Plants Committee.

LINES UP '51 POLLINATION PROGRAM

FOURTEEN resolutions, passed at Tucson by the Honey and Pollen Plants committee, will direct future action of this Federation group. Chairman S. W. Edgecombe, Utah, headed the resolutions committee.

Urges State Seed Meets

Legume seed conferences, similar to two held this year in Iowa, are urged for each state in Resolution 12. State beekeepers associations are to take the initiative in setting up these meetings of seed growers and beekeepers.

Resolution 12 reads: "at such meetings (should be) presented pollination facts, methods of payments for hives, strength of colonies, when and how to place them in fields, use of insecticides, **and other vital matters which do affect the production of legume seed.**

"It is also suggested that state beekeepers' associations invite to such meetings agronomists, entomologists, dust and spray representatives, and others, . . . so that all who are concerned in legume seed production may be informed and in agreement with recommendations formulated."

Five Compliment

Five resolutions are complimentary to individuals and organizations aiding the Federation with its pollination program. To the University of Arizona, **Arizona Highways** magazine, the Tucson Chamber of Commerce, those arranging the sixth yearly conference states sponsoring meetings of beekeepers and seed growers, and to Jas. I. Hambleton, head of USDA's Maryland bee culture lab, go commendations.

Individuals commended for exceptional work on the 1950 Pollination Conference of the Federation are Mr and Mrs. Clarence L. Benson, Phoenix; Mrs. J. B. McCormick, Dr. L. A. Carruth, Frank E. Todd, S. E. McGregor, and Don Phillips (University News Service), all of Tucson.

Under Resolution 5, the chief of the Soil Conservation Service is urged to enlarge the present program, which includes pollination recommendations.

Get Honey Plants on Range

The inclusion of honey plants in the range reseeding programs is urged in the sixth recommendation. Dr. C. K. Pearse, chief of the Division of Range Reseeding, told the Conference of possibilities of developing new bee ranges in the national forests through this department.

Need Apiarists in Extension

The addition of a USDA extension apiarist to the Washington, D. C. staff is an important resolution. The Federation has been asking for a man on this for some time now; following the Honey and Pollen Plants recommendation, effort was renewed.

Federation Secretary, Glenn O. Jones, has again contacted Charles F. Brannan and Dr. M. L. Wilson, USDA director of extension.

Resolution 8 urges an extension entomologist in each state, **"Who, along with his other duties, would be charged with the dissemination of current information on pollination practices to farmers, seed growers, food producers, and beekeepers."**

Development of improved harvesting machinery, payment for pollination and continuation of research are the subjects of successive resolutions.

SETS UP 4-H LEGUME PROJECT

After reviewing the 4-H legume seed project compiled recently in the American Beekeeping Federation office, Dr. I. J. Johnson, head of Iowa's Farm Crops Sub-Section, wrote:

"We are extremely well pleased with the proposal that your organization has made to assist in the 4-H club program."

Aims to Boost Yields

The aim of this 4-H project is to increase per-acre yields of legume seed crops. It will acquaint the 4-H'er with recommended seed-raising practices, including pollination.

Both a record form and a manual were prepared in the Federation office.

Requires Insect Count

The boy will be required to make sweeps for damaging insects and also to make occasional counts of pollinators present during the blooming period.

He must give a complete soil history of the plot, a bee-colony placement map, map indicating competing plants within a 1½-mile radius, both pollinating and damaging insect count at intervals, insecticide use, harvesting methods, and comparative yields of the plot with and without adding pollinators.

The project is designed to make the 4-H boy a good seed producer. It stresses pollination, **among other factors.** As well as giving the boy the elements of pollination, the project will be bound to educate a few fathers, since the two will have to work together.

"It's A Tough Project"

"It's a tough project," said Cass County Agent Harry Codlin. "But that's what we want. It should teach the boy something."

Jerry Lineweaver, Iowa's state boys 4-H leader, called a meeting to iron out details of the project at Ames during the Iowa State Beekeepers' meeting. Departments of agronomy, entomology, extension, and agricultural engineering met with representatives of the American Beekeeping Federation and several county agents, who will use the projects next summer.

Previews and Events

Cook-DuPage Beekeepers Associations Short Course

Tentative Program

Friday, February 9, 1951

10:00 A. M. Through the year with the honey bee colony.
G. H. Cale, Editor, American Bee Journal.

11:00 A. M. Body structure of the bee and how it functions.
V. Milum, University of Illinois.

12:00 - 1:30 P. M. Recess for Lunch

1:30 - 2:15 P. M. Honey plants and beekeeping areas.
Carl E. Killion, Chief Inspector of Apiaries, Illinois State Department of Agriculture.

2:15 - 3:00 P. M. Essentials in beekeeping equipment.
G. H. Cale.

3:00 - 3:15 P. M. Recess

3:15 - 4:00 P. M. Brood diseases and their control.
Carl E. Killion.

4:00 - 4:45 P. M. Comb pests and adult bee diseases.
V. Milum.

6:30 - 7:30 P. M. Fall and winter management of bees.
M. J. Deyell, Editor, Gleanings in Bee Culture, Medina, Ohio.

7:30 - 8:30 P. M. Spring and summer management of colonies for production of extracted honey.
G. H. Cale.

8:30 - 9:30 P. M. Spring and summer management for production of section comb and bulk comb honey.
C. E. Killion.

Saturday, February 10, 1951

10:00 - 11:00 A. M. Nature of honeys and their care.
V. Milum.

11:00 - 12:00 A. M. Methods of marketing honey.
Art Kehl, G. B. Lewis Co., Watertown, Wis.

1:30 - 2:30 P. M. The two queen system of management.
Dr. W. E. Dunham, U. S. Dept. of Agriculture, Columbus, Ohio.

2:40 - 3:30 P. M. Breeding and races of bees.
Dr. W. E. Roberts, North Central States Bee Culture Laboratory, Madison, Wis.

3:40 - 4:30 P. M. Pollination and seed production.
Dr. W. E. Dunham.

4:30 - 5:30 P. M. Demonstration of beekeeping gadgets—
Members of Cook-DuPage Beekeepers Association and others.

6:00 P. M. Banquet
The latest in movies of bees.
H. H. Root, General Manager, A. I Root Co., Medina, Ohio.

Pennsylvania State Beekeepers' Association

48th Annual Meeting

Tuesday Morning, Jan. 9, 1951 - 10-12
Main Farm Show Building—Room E
Harrisburg, Pa.

Chairman: Merle P. Fisher, Granville.
Invocation: The Rev. Wallace J. Cummings, Harrisburg.
Address of Welcome: Hon. Miles Horst, Secretary of Agriculture, Harrisburg.
Resume of Twenty-five Years Inspection Work in Pennsylvania—Harry B. Kirk, Senior Entomologist, Harrisburg.
Research in Apiculture at Pennsylvania State College—Prof. Edwin J. Anderson, State College.
Eight Years of Honey Yields by the Modified Two Queen System—Dr. W. E. Dunham, Apiculturist, Ohio State University.
Gleanings from the Morning Program—M. J. Deyell, Editor, Gleanings in Bee Culture, Medina, Ohio.

Tuesday Afternoon, Jan. 9 - 1:30-4:00
Main Farm Show Building—Room E

Report of Secretary-Treasurer: H. M. Snavely, Woodbury.
President's Address—Merle P. Fisher, Granville.
Election of Officers
Business Session
The Use of Honey in the Home—Mrs. Charlotte B. Waldron, Malvern.
Round Table Discussion: How to Increase the Membership in State and County Organizations—Led by A. R. Dean, Secretary of Allegheny County Assn.

Tuesday Evening, Jan. 9 - 6:30
Beekeepers' Banquet—Turkey Dinner $1.50

Colonial Park Evangelical and Reformed Church, Three Miles East of Harrisburg, on North Side of Route 22.
Toastmaster—M. J. Deyell, Medina, Ohio.
Blessing before the Dinner—The Rev. Leonard E. Good, Nuremberg.
Special Music: Students from John Harris High School, Harrisburg, Prof. A. Leon Reissinger, Director.
Successful Wintering of Bees—Dr. W. E. Dunham, Ohio State University.
Research Program at the Penna. State College Presented in Picture—Prof. E. J. Anderson.

Wednesday Morning, Jan. 10 - 9:30
Main Farm Show Building—Room E

Report of Committees
Greetings from Visitors
Extension Beekeeping in Pennsylvania—W. W. Clarke, Jr., Extension Apiarist, State College.
Value of Bees for Pollination—M. J. Deyell.
Swarm Control in Extracted Honey Production—Dr. W. E. Dunham.
Report of Delegate to the 1950 National Convention, Biloxi, Miss.—H. M. Snavely.
Report of Resolutions Committee.
Adjournment.

Annual Meet...g

Allegheny County

Pittsburgh, December 11

The Allegheny County Beekeepers Association will hold its annual meeting in the Downtown Y. M. C. A., Pittsburgh, Pa., at 7:30 p. m., December 11, 1950. An interesting and instructive meeting is promised.

A. R. Dean, Sec'y.

Minnesota Beekeepers' Annual Meeting

St. Paul, December 5

The annual meeting of the Minnesota Beekeepers' Association will be held in the Fiesta Room, Lowry Hotel in St. Paul on December 5. This will be a meeting of prime importance to every beekeeper.

At the summer meeting, a committee was appointed to study marketing. A great deal of research and study has been put into a new cooperative selling plan. Every beekeeper owes it to himself to attend this winter meeting to study and discuss the new packing plant program.

North Texas Field Day

A feature of the First Annual Field Day of the North Texas Beekeepers' Association at Cooper on September 15th was a visit by a local high school agriculture class. Shown above is Mr. C. J. Burgin, Chief Foulbrood Inspector of Texas pointing out the mysteries of the honeybee in an observation hive. County Agent H. M. Hendley (extreme right), Teacher Ira Black (second from right) and President Fate Bray (right, center) look on.

K. W. Pearce, Honey Grove, is vice president of the Association. E. R. Glew, Paris, Dadant manager, is secretary of the group.—Photo courtesy Fred Adams, Cooper, Texas.

Honey house sanitation and cooperative buying will also be discussed. Pollination will be another important topic on the program.

There will be a banquet and funfest in the evening.

o

Massachusetts Federation Worcester, Jan. 11

The annual winter meeting of the Massachusetts Federation of Beekeepers' Associations will be held in conjunction with the Union Agricultural meetings to be held on January 11, 1951, at the Memorial Auditorium in Worcester, Massachusetts. The principal speaker on the all-day program will be Dr. W. E. Dunham, Research Professor, Ohio State University at Columbus, Ohio. Dr. Dunham will speak on the "Two Queen System of Beekeeping." All beekeepers and interested people are invited to attend.—Wallace R. Parker, Sec'y

o

Westchester Co. Beekeepers Assoc. New Rochelle, N. Y., Dec. 17

The Westchester County Beekeepers Association will hold its annual Christmas meeting and party on Sunday, December 17 at 2:30 p. m. at the Odd Fellows Hall, 20 Lockwood Avenue, New Rochelle, N. Y.

Santa Claus will be on hand to distribute gifts to all present. Come prepared to spend an enjoyable afternoon. Bring the children.

A. M. Barnes, Publicity

o

Southern Conference A.B.B.A. Meetings

The annual Southern States Beekeeping Conference will be held on December 4, followed by the American Bee Breeders Association meeting on December 5 and 6. All sessions will be at the Andrew Jackson Hotel in Nashville, Tennessee.

It is unfortunate that a full program has not been received in time for inclusion in this issue. But President Foster of the Southern Conference met with Mr. Little, Mr. Fortune (president) and Mr. McVay in October at which time a full schedule was worked out. The Conference as usual will be highlighted by its wide representation and its sociable friendliness.

The A.B.B.A. will have as a part of its schedule, a report on the testing of queens from various sources in experiments under the direction of Mr. Little.

As a combination of business and pleasure, these meetings always attain a high plane, and attract guests from widely separated areas both of the South and the North.

Federation Meets in Denver

The American Beekeeping Federation and associated groups will hold their annual meeting at Denver, Colorado, January 31 through February 2, 1951, at the Cosmopolitan Hotel. This is one of Denver's finest hotels and offers splendid accommodations for all who wish to attend. Everyone is invited. Everyone is welcome. Come to Denver for the best national meeting ever to be held. Mingle with the largest group of beekeepers, queen and package-bee producers, and others associated with the bee and honey industry, ever to assemble at one time.

Organization problems, marketing the honey crop, and pollination of food and seed crops will spotlight the two and one-half day program. These are the three major problems confronting the industry. At Denver, these problems will be discussed by prominent speakers—by those assembled—and important policies and decisions will be voted upon. This is your opportunity to help guide the destiny of the industry from which you derive a livelihood.

The ladies' auxiliary banquet will be held, as usual, the first evening of the convention. Mrs. Carl E. Killion, Illinois, is president of that group and has charge of program arrangements for the banquet. And, in addition to the banquet and business meetings, a gay and beneficial time is being planned for the ladies who attend.

The annual Federation banquet will be held the second evening, February 1. John W. Holzberlein, Jr., a past-president of the Federation and now a member of the Executive Committee, is slated as toastmaster, and promises a hilarious good time for all. Mr. T. L. Ball, Chairman of the Denver Convention Committee, and John have been responsible for making the preliminary arrangements for the meeting place in Denver, along with the help of a committee of Colorado beekeepers. All are determined that everyone come to Denver for a grand good time and a worthwhile program. They especially wish everyone to understand that **roads never get icy in Colorado** and mountain roads are kept open the year around, in case you want to take some time to see the beautiful scenery.

The Inspectors of America are being invited to meet in a special session ahead of the regular program, and those engaged in bee breeding programs are being invited by the Research Committee to attend a one-day technical conference before the convention begins. Also scheduled for meetings ahead of the regular program are meetings of the Executive Committee, the Board of Directors, and the standing committees of the Federation.

An interesting feature will be a honey tasting contest. All who attend are invited to enter a contest in which they will be asked to identify ten well-known types of honey. Do you know your honeys? Prizes will be awarded the winners.

Come to Denver for a grand time, a comfortable stay, and an exceedingly important bee industry meeting.

Texans Meet

A group of beekeepers attending the Texas Beekeepers Association annual meeting October 2 and 3, 1950. This meeting was held at the Memorial Student Center, A. & M. College, College Station, Texas.—Photo courtesy F. L. Thomas, State Entomologist.

American Honey Institute

A Christmas song.

A lyric that rings out in the quiet-quiet of the night.

A bell-like tremor that clings to the frosty air, vibrates louder-louder, then softer-softer, until finally it releases its hold on the heretofore and slips into the hereafter.

A chorus of young voices, some soprano, some tenor, some sliding up and down between the two, all singing, singing, singing, as if some magic hand had plucked the harps of their hearts so celestial music could echo against the boundaries of the world.

A listening world-dreaming, reminiscing, smiling, sharing.

This is Christmas. Our Christmas and yours. While we share the beauty of a Christmas song, we share the beauty of the Christmas spirit. For once, on this earth of many paths, we come to the crossroads of Christmas. We rejoice in our reunion.

We act as the one people that we are.

God grant that in the hustle of the year to come we may take time to pause and share—

A Christmas song.

* * * *

The Christmas holidays are fast approaching. Children are beginning to count the days until Santa comes.

Commercial State Bank Building
Madison 3, Wisconsin

•

And perhaps you should too. Are you prepared to make the holidays Honey Days?

The holiday season, when your bees are wintered down and don't require so much of your time, is your chance to spread the honey message far and wide. At no other time of the year do homemakers do so much cooking and baking. At no other time are new, exciting recipes so much in demand. And at no other time can you sell so much honey! !

The American Honey Institute is behind you in holiday-time honey promotion. Watch for articles in your favorite newspaper. Listen for honey recipes on your favorite radio station.

The Institute is ready to send you a supply of leaflets and books, too. Perhaps you would like to distribute the honey fruit cake recipe folder which would be particularly good at Christmas time. Order a supply of 100 for $1.00 from the American Honey Institute. (Address above.)

Have plenty of leaflets on hand to distribute with the honey you sell. In addition, you will gain the good will of your customers if you slip recipe books into envelopes decorated with Christmas seals or other holiday trimmings and send them as gifts to your customers.

Into this envelope you might also slip a honey calendar for the new year. The handy pocket sized calendar is done in golden yellow and green and has the slogan, "HONEY in some way Every Day." It points out the two most important honey weeks, Honey for Breakfast Week and National Honey Week.

Prices for paper and printing have gone way up this year, however we are able to offer you these attractive calendars at $1.00 per seventy-five. So just put a dollar bill in an envelope today and you will have your calendars in time for the holidays.

* * * *

Holiday time is the time for decorations. Nothing gets you in the spirit of Christmas and the New Year so much as dressing things up a bit.

Give your honey sales shelves a holiday air. If you distribute your product throughout local grocery stores, have posters printed and decorated with holiday messages to display near the honey. Attach recipe leaflets to the honey containers with rubber bands as gifts.

Effective advertising displays can be put up in your yard at Christmas time. Perhaps you could make a Santa Claus manikin holding out a container of honey as a gift.

* * * *

And for that added treat for customers and guests at Christmas time, make some honey candies. Wrap the assorted candies in bright red and green cellophane. See that each customer or guest gets a piece, and see that he knows the candy is made with honey.

Pictured on this page is a delicious candy made from chocolate and honey. And here is the recipe:

HONEY CHOCOLATE ALMOND DROPS

8 squares (1 package) candy-making chocolate
¼ cup sweetened condsened milk*
¼ cup honey
¼ teaspoon salt
½ teaspoon almond extract
Blanched almonds

* For best results, have milk at room temperature.

Heat chocolate over boiling water until partly melted. Then remove from boiling water and stir rapidly until entirely melted. Add condensed milk, honey, salt, and flavoring and stir until well blended. Drop from teaspoon on waxed paper. Place ½ blanched almond in center of each candy. Chill in refrigerator or let stand at room temperature several hours, or until firm. Makes about 5 dozen small drops.

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How to Sell Us Your Honey

1. Send us a good sized sample, labeled with your name and address and the quantity it represents.
2. Sample should be as the honey is in your containers. If more than one grade, send samples of each.
3. Advise if the honey is packed in new or in used containers. We are not interested in retail packages.
4. Carload lots may be shipped on the basis of draft attached to bill of lading inscribed "Permit Inspection."
5. Our reference—your bank, also Dun & Bradstreet.

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Merry Christmas

To my beekeeping friends

My book "Better Queens" makes an ideal Christmas present. As one beekeeper wrote, "Best Christmas present I ever got was a copy of your book." Another party wrote, "I have been rearing queens by the method described in 'Better Queens' and find it surprisingly simple and I never saw such fine queens." Another beekeeper wrote, "I have your book and one of your breeding queens I got with a pound of bees and I sure get a big kick out of rearing queens."

You will be pleased with our **untested queens.** They give universal satisfaction. No premature supersedure as all are reared direct from the egg the same as the bees rear them when swarming. We now ship all queens by air as they not only arrive quickly but are in no way injured as they frequently are by long confinement when shipped by regular mail.

Prices—Untested queens guaranteed purely mated $1.50 each. Breeding queens in regular mailing cage $5.00 each. In large cage shipped by parcel post, regular mail prepaid $8.00 each. Untested queen with one pound bees by regular mail postpaid $5.00 each. My book "Better Queens" $4.00.

Write for my Golden Anniversary catalog.

JAY SMITH **Route 2, Fort Myers, Florida**

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BETTER BRED QUEENS
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A CONSTANT MARKET FOR YOUR BEESWAX
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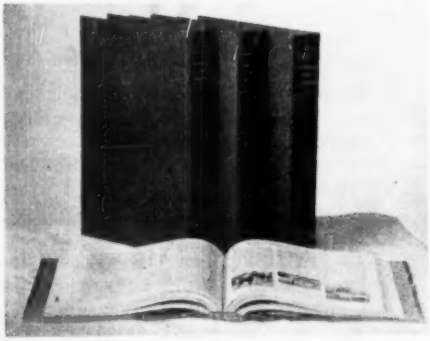

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A brand new book of 160 finely illustrated pages--history of queen rearing, study of the queen bee, production of queen cells, mating, care of queens, introduction, breeding, stock improvement, controlled mating

$2.50 postpaid

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Many more books from which you will find it easy to choose what you may want as a gift for your beekeeping relative or friend. Send for complete book list.

American Bee Journal

Hamilton, Illinois

Announcing Our 1951 Breeding Program

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Starline Hybrid queens are from select hand inseminated Mothers and mated in isolated yards to select Drones. They are bred for Production, Resistance, and Temperament.

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PROFITS
Now used everywhere as essential equipment. Sixteen styles to fit any standard frame. Write for details, prices.

STOLLER *Honey Farms* LATTY, OHIO

PACKAGE BEES AND QUEENS—

GREETINGS to our **Friends and all Beekeepers. THANKS** for the past good season.

Much time has been consumed to prepare our bees well for 1951. We suggest early booking for best results.

GARON BEE COMPANY **DONALDSONVILLE, LA.**

LADYLIKE mountain gray Caucasian bees

Produced over a two hundred pound average in a 1,000 colony outfit during 1950.

They will produce record crops for you if properly handled.

Write for our circular
HOW TO HANDLE CAUCASIAN BEES

CAUCASIAN APIARIES **Castleberry, Ala.**

BESSONET'S BEES AND QUEENS

Our preparations for 1951 are now under way. Many wise buyers already have their dates reserved. It is later than you think, so write us TODAY without obligation and we will advise if the dates you want are available.

BESSONET BEE COMPANY, Donaldsonville, Louisiana

AN ADEQUATE SUPPLY OF DADANT'S CRIMP-WIRED FOUNDATION will assure you fine combs. You are protected too, when you know it is made of pure beeswax—Dadant & Sons

Merry Christmas Happy New Year

To all our customers and friends

And may 1951 be your Golden Year

A. H. Rusch & Son Co. **Reedsville, Wisconsin**

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CAUCASIANS - CARNIOLANS

Wish you all a very Merry Christmas and a Happy and Prosperous New Year. Preparing to have Queens and some package bees by March 1, 1951.

Albert G. Hann **La Belle, Florida**

Dovetailing Machine

FOR MAKING BEE HIVES AND SUPERS. NOW A SIZE FOR EVERY BEEKEEPER'S SHOP. DETAILS ON REQUEST.

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Caucasian queens are daughters of northern-bred, production-tested old queens that have never swarmed in at least two seasons on comb honey production. These old queens are also from non-swarming mothers.

RESULT—

Long trouble-free service for you. Try them and see for yourself.

Untested $1.25 each. Breeders $5.00 each Tested $2.50 ea. Tested Breeders $8.00 ea.

An extra queen with each $5 ordered.

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Maximum production is most easily assured with superior bees and queens. That's one way we try to help you make money. Superior bees and queens is our motto at all times. We like to have 50 per cent deposit and balance before shipping date. We believe this is fair to all—as we like to plan and ship the day you want shipment. Price scale:

Queens, any number $1.00—Tested Queens $2.00
2-lb. package and queen ..... $3.00 any number
3-lb. package and queen ..... 4.00 any number

THE VICTOR APIARIES — Uvalde, Texas

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Cut Comb Honey Trays
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Our New Style packing for Cut Comb Honey is pleasing to the consumer. In many places more honey is being sold than ever before. The two sizes are a decided advantage. The attractive display, design, and colored printing boosts sales.

Both the Cut Comb Open-Face Cardboard Trays and the Display and Handling Corrugated Cartons snap together easily giving good protection. No gluing or gummed tape necessary.

The Display and Handling Carton holds 12 of the large size trays; or 24 of the small size trays. It will also take 12 of the Style Two Window Cartons that are used for 4¼ x 4¼ x 1½ plain sections.

The honey cuts must be wrapped in moisture proof cellophane which can be Scotch taped or heat sealed. Well drained or dried edges also make a better pack.

	Per 100	Per 500	Per 1000
Small Trays for cuts 2" x 4⅛"	$1.25	$5.00	$ 9.75
Large Trays for cuts 4⅛"x4⅛"	1.50	6.25	12.00
6½" x 8" MP Cellophane for small cuts	.50	2.00	3.80
8" x 13" MP Cellophane for large cuts	.90	3.75	7.25

Cut Comb Display and Handling Cartons, 10—$1.50; 25—$3.35; 50—$6.00

A complete line of containers for marketing honey. Send for price list.

A. G. Woodman Co. — Grand Rapids 4, Michigan

Crop and Market

M. G. Dadant

Movement of Honey

In general, honey is moving very satisfactorily throughout the eastern states, the Southeast, and the Pacific Coast. There was a lull in the demand during the early part of November which has been succeeded by a little better reception towards the last of the month. There has been average movement in other areas.

We believe that the honey demand is somewhat in excess of what it was at the same time last year, and this is borne out by the fact that although there is a considerably heavier crop, the carry-over as of November 1, according to government reports, is less than 5,000,000 pounds more than at the same time last year.

It is in the Canadian provinces, however, that the very appreciable improvement shows. Here the government has disposed of all the honey it purchased to help stabilize the market, and the demand is extremely good. This applies particularly to the eastern provinces of Ontario and Quebec. Farther west the demand is not quite as heavy, but usually it develops more slowly.

Honey Prices

As usual with everything from a beekeeper-packer to the large cooperative or independent packer, we find a wide spread of retail prices. One-pound jars run from 25 cents to as high as 37 cents, with the average in the neighborhood of 30 cents.

Five-pound pails in New England and some of the eastern sections run from $1.25 to $1.50. As a matter of fact, this is the prevailing price east of the Mississippi River except for some "cut price" honey of a mixed and rather unfavorable grade which is working its way into some of the chain and larger independent stores.

Farther west in the intermountain territory, the 5-pound pails are averaging about $1.00 with some as high as $1.25, and, as farther east, cut price honey is available. Even in comb honey, there is a wide variety of price, the average being about $8.00 to $8.50 a case.

What Price Offered for Honey?

One would assume with a floor price of 9 cents set by the government that no honey would be moving below that price. However, ignorance on the part of the producer as well as the necessity for money has led to some sales, even of white honey, as low as 8½ cents f.o.b. producers' point, and in some cases f.o.b. destination. Most of this, however, was earlier, and conditions have changed for the better.

Very little honey remains for wholesale markets in the entire East and the Southeast except perhaps New York and Florida. Florida had a large crop and prices are still somewhat depressed there.

As we work farther west, the usual sources of amber honey are lacking this year, the early cold spell followed by very dry weather almost completely eliminating any possibility of a crop there, with colonies going into winter with only sufficient stores for their needs.

In glancing over our chart, we find that most offers of amber honey are at 9 cents with the offers on white honey ranging from 9 cents to 11½ cents, with the general rule 10 or 10½ cents. In the Canadian provinces, 12 cents is the average price for white with 9 to 9½ cents for amber, with a tendency for prices to stiffen, as honey becomes more scarce.

Amber or White Honey Plentiful

Usually there is an oversupply of amber honey particularly after the extracting of fall sources. However, as mentioned above, fall sources have pretty well "dried up" during 1950 and as a consequence, the amount of amber honey to be offered is comparatively light. There should be no flooding of the market on amber honey and 9 cents should be realized without difficulty for such stocks as are on hand. Outside of Arkansas, Oklahoma, Kansas, and some sections of California, the amount of amber is much lighter than it has been in several years.

Beekeepers as a rule are loathe to part with their honey at anything like the floor price and many are holding for a price of 12 cents f.o.b. their station with only a possibility of the price ranging that high, although 10½ to 11 cents has been paid in quite a number of instances. The Texas crop which was very heavy this year is cleaning up in great shape. In fact, all of the bulk comb honey producing areas are disposing of their honey remarkably well. Perhaps Florida might copy and produce more largely of the bulk comb. Tupelo honey in those specially favored areas is moving off rapidly and will soon be out of stock.

In Canada, the eastern provinces have buyers out hunting for honey, whereas farther west white honey, at least, seems to be fairly plentiful as yet.

Condition of Bees

Practically without exception, bees are reported in good condition throughout the entire United States except for California where in many cases conditions have never been any worse than they are at present. The failure of the late summer and fall wild sources has meant that the bees were not able to build up for the winter season as usual, and in many cases will dwindle down before the spring season arrives with quite evident losses.

It is reported in spite of the good condition of bees, and plenty of young bees and while the bees may have plenty of honey for winter, there is not the usual over-abundance, and with anything like a heavy winter and a prolonged spring, a large amount of feeding is going to be necessary. In fact, we hear of more than the usual amount of feeding for winter.

Honey Wanted—Cars and less than car. Top Prices
C. W. Aeppler Co., Oconomowoc, Wis.

Postscript

Frank C. Pellett

Mr. Pellett and his grandson examine trial rows of a new clover in the Honey Plant Test Garden at Atlantic, Iowa. (Photo by A. M. Henrickson)

The recent death of Dr. N. E. Hansen of Brookings, South Dakota, removes one of the world's greatest plant breeders. Living in a very severe climate, he made a wide search for hardy fruits in Russia and North China. Crossing these on native species he added a long list of improved varieties suited to the Dakota climate. He also added better alfalfas and grains and numerous others. Few men have done so much to add to the comfort of their fellows.

* * * *

Doctor Hansen has told me of a visit to a remote valley in Russia where the beekeepers get their main crop of honey from red clover. Later he wondered whether it was because of longer tongued bees or clover better adapted to honey bees. He had many rich experiences in far and strange places. I regard it as one of the great privileges of my life to have known him over a period of nearly forty years.

* * * *

The retirement of Dr. R. L. Webster at the Experiment Station at Pullman, Washington, closes the public career of a well known entomologist. I remember Webster best as a young man at Iowa State College and later in North Dakota. When sweet clover came to the Dakotas, he did a wonderful job of promoting a new industry of honey production where there had been but little bee pasture and where the census had found only about 700 colonies of bees in the entire state. Yields were so large that commercial beekeepers came from far and near and trainloads of the finest white honey were soon shipped from the state. Webster's work in North Dakota should not be forgotten.

* * * *

Beekeepers who attended last year's pollination conference at Seattle found much of interest in the University Drug Garden. The gardener, Ludwig Metzger, took much care to record the amount of bee activity on the various flowers. He thus provided information as to the relative value of each as a source of nectar. The recent death of Metzger is a distinct loss to beekeeping but the interest of Prof. Youngken who is in charge of the work with drugs will probably insure that the observations will be continued.

* * * *

A. G. Woodman of Grand Rapids, Michigan is one beekeeper who is increasing bee pasture by planting purple loosestrife along a nearby stream. There is now a considerable showing in several spots and, once established, the plant will spread until it really counts for something.

* * * *

In view of the wide public interest in more bees for pollination, it is surprising to hear so many reports of serious loss from spreading of poison. We hear of such heavy damage that beekeepers are compelled to move and, in some cases, are giving up and going out of business. There is still need of much educational work. I would like to see funds raised to go into court and compel some of the careless dusters to pay heavy damages.

* * * *

There is so much interest in the ever-flowering locust that Melvin Pellett has propagated a few trees for sale to those who wish to give it a trial. It is like the black locust except that it blooms several times during the summer from May to September. The black locust yields so freely for a short time that we are hoping this long-flowering variety may prove valuable.

* * * *

From far South Africa comes an account of the plans for starting a honey plant garden there. It is proposed to bring together the good bee plants suited to that mild climate. They will have a very different collection than those which do well in this severe climate. With so many such gardens starting over the world we can expect real progress in the study of bee pasture.

* * * *

November finds me still in the hospital and plenty tired of it. After thinking in terms of operations and hot water bottles for four months, it is hard to write the kind of Postscript that carries any interest. I have missed the test garden for most of the season and must wait 'til next year to judge the value of this year's new plantings.

* * * *

Xavier Widmer of Medford, Oregon writes that the jujube does well in Oregon and will stand below zero temperatures. He reports that bees visit the flowers but does not indicate that is important. The fruit of most seedlings is small and worthless. The flowers open so late in spring as to be safe from spring frost.

* * * *

August Beilmann, of the Missouri Arboretum, calls attention to a fall flowering elm (Ulmus parvifolia). It blooms in September and he reports a good flow of nectar. Our common elms bloom in spring and yield only pollen. Beekeepers should make an organized effort to get such nectar yielding trees more generally used in public planting programs. From Texas come reports that the tallow tree has been planted in some places in sufficient numbers to give the beekeepers a good boost.

(Mr. Pellett's address is now in care of the Jennie Edmundson Hospital, Council Bluffs, Iowa.)

Classified Advertisements

BEES AND QUEENS

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QUEENS OUR SPECIALTY — Carniolans, $1.20; Caucasians, 90c. Isolated mating yards. Italians, 90c each; Italians after May 15th, 50c. Walter D. Leverette, Fort Pierce, Florida.

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FOR SALE

FOR SALE—50 two-story colonies of bees, equipment for 100. Write Stan Trescott, Wanakena, N. Y.

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FOR SALE—Fifteen colonies in double hive bodies. Extra equipment. Clark Jenkins, Shipman, Illinois.

FOR SALE — 500 colonies bees. Good equipment. Also queen rearing equipment. Sell all or part. Charles Baker, Livingston, Alabama.

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CARLOADS or less of honey and wax. Send sample and price. We have a government contract to pack your price support honey. Advice on request. Alexander Company, 819 Reynolds Rd., Toledo, Ohio.

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WANTED—Honey in all grades. Submit samples. Highest prices paid. Schultz Honey Farms, Ripon, Wisconsin.

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WANTED — Extracted honey, white or light amber, in 60's. State price in first letter. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

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WANTED—Bees, large or small lots, by producer-packer. Must be reasonable. Box W, care American Bee Journal.

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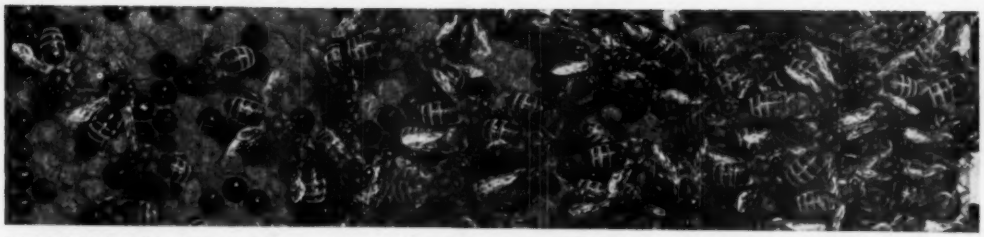

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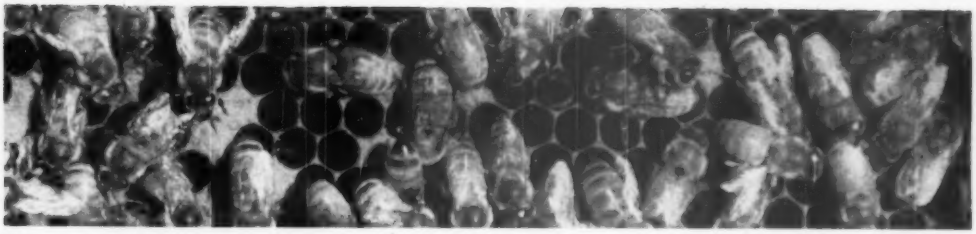

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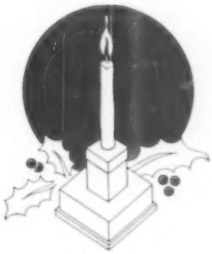
Merry Christmas



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